CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 91-122
NPDES NO. CA0005517

WASTE DISCHARGE REQUIREMENTS FOR:

MARE ISLAND NAVAL SHIPYARD
POWER PLANT AND DRY DOCKS
VALLEJO, SOLANO COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region, (hereinafter called the Board) finds that:

1. The Department of the Navy, Mare Island Naval Shipyard, hereinafter called the discharger, by application dated May 2, 1988 has applied for reissuance of waste discharge requirements (Order No. 83-45) and a permit to discharge waste under the National Pollutant Discharge Elimination System (NPDES), from Mare Island Naval Shipyard.

2. By letter dated November 10, 1988 Order No. 83-45 was administratively extended by the Executive Officer pursuant to 40 CFR 122.6 and 23 CAC 2235.4.

3. The discharger repairs and performs maintenance on various seagoing vessels in four graving dock type dry docks and operates a power plant. Waste from these operations is discharged into Mare Island Straight in San Pablo Bay (See Attachment A).

4. The wastes produced from the discharger's operations consists of the following:

   Waste 001 consists of 2.60 million gallons per day (mgd) of power plant non-contact compressor cooling water. The maximum discharge rate is about 7500 gallons per minute. This waste is discharged through a separate shoreline outfall into the Strait.

   Waste 002 is an intermittent discharge used to carry ships in and out of dry docks No. 1 (8 million gallons) and No. 2 (17.8 million gallons). This discharge can become contaminated from contact with residual spent abrasives from sandblasting of vessel hulls, which remain on the floor of the dry dock after cleanup. The abrasives may contain decaying marine organisms, heavy metals, toxic paint residues, oil and grease, and other materials. The residual abrasives come in contact with

bay water when the dry dock is flooded to refloat a vessel.

Waste 003 is an intermittent discharge used to carry ships in and out of Dry Docks No. 3 (19.5 million gallons) and No. 4 (7.5 million gallons). This discharge can become contaminated from contact with residual spent abrasives from sandblasting of vessel hulls, which remain on the floor of the dry dock after cleanup. The abrasives may contain decaying marine organisms, heavy metals, toxic paint residues, oil and grease, and other materials. The residual abrasives come in contact with bay water when the dry dock is flooded to refloat a vessel.

Waste 004 consists of runoff from pressure washing of vessel hulls in Dry Docks No. 1 and No. 2.

Waste 005 consists of seepage into Dry Docks No. 1 and No. 2 which must be periodically pumped out. The average flow is 0.7 mgd.

Waste 006 consists of runoff from pressure washing of vessel hulls in Dry Docks No. 3 and No. 4.

Waste 007 consists of seepage into Dry Docks No. 3 and No. 4 which must be periodically pumped out. The average flow is 1.0 mgd.

Wastes 002 through 007 may also contain non-contact cooling water from vessels in the dry docks. Stormwater falling into the dry docks is also discharged through the dry dock pumping systems. Wastes from Dry Docks Nos. 1 and 2, and wastes from Dry Docks Nos. 3 and 4 are discharged via separate shoreline outfalls into Mare Island Strait.

5. The U.S. Environmental Protection Agency (EPA) and the Board have classified this discharge as a minor discharge.

6. The discharge is presently governed by Waste Discharge Requirements, Order No. 83-45 which allow discharge into Mare Island Straight.

7. Limitations for suspended solids, oil and grease and pH in Order No. 83-45 for the non-contact cooling water discharge have not been included in this Order. Oil and grease and pH have not exceeded effluent limitations for this discharge in the past and based on the nature of the discharge it is felt that monitoring for these constituents is unnecessary.

Due to the location of the cooling water inlet and outlet structures in an area where sediment is stirred up by tidal action, suspended solids are frequently present in the cooling water influent and discharge. The presence of suspended solids in the discharge is due to naturally occurring conditions in the source water and not to the discharge itself. Therefore monitoring for suspended solids is deemed unnecessary.

8. This Order requires the discharger to complete a feasibility study for meeting Basin Plan Effluent Limitations for chromium, copper, lead and zinc. The Board intends to revise this Order to consider including such limits, together with a compliance time schedule, if appropriate.

9. The Board adopted a revised Water Quality Control Plan for the San Francisco Bay Region (Basin Plan) in December 1986. The State Water Resources Control Board approved it in May 1987. The Basin Plan contains water quality objectives for San Pablo Bay and contiguous waters.

10. The beneficial uses of San Pablo Bay and contiguous water bodies are:

    - Water contact recreation
    - Non-contact water recreation
    - Wildlife habitat
    - Preservation of rare and endangered species
    - Fish migration and spawning
    - Industrial process supply
    - Industrial service supply
    - Navigation
    - Commercial and sport fishing
    - Shellfish harvesting
    - Estuarine habitat

11. Effluent limitations and toxic effluent standards, established pursuant to Section 301, 304, and 307 of the Clean Water Act and amendments thereto are applicable to the discharge.

12. Effluent limitation guidelines requiring the application of best available technology economically achievable (BAT) have not been promulgated by the U.S. Environmental Protection Agency for this type of discharge. Effluent limitations of the Order are based on the Basin Plan, State Plans and Policies, current operational performance, and best professional judgement. The limitations are considered to be those attainable by BAT, in the judgement of the Board.

13. The issuance of waste discharge requirements for this discharge is exempt from the provisions of Chapter 3 (commencing with Section 21000 of Division 13) of the Public Resources Code (CEQA) pursuant to Section 13389 of the California Water Code.

14. The Board has notified the discharger and interested agencies and persons of its intent to reissue waste discharge requirements for the discharge and has provided them with an opportunity for a public hearing and an opportunity to submit their written views and recommendations.

15. The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED THAT the Mare Island Naval Shipyard, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, and the provisions of the Clean Water Act and regulations and guidelines adopted thereunder, shall comply with the following:

A. Discharge Prohibitions

1. Except as provided in Section B.2. of this Order, the direct discharge of spent abrasive sweepings and paint residues from the dry dock, ships, or piers, to waters of the State is prohibited.

2. Except as provided in Section B.2. of this Order, the placement of spent abrasives and paint residue is prohibited in areas where the materials may be washed into waters of the State by stormwater runoff, or by tide or wave action.

B. Effluent Limitations

1. Waste 001 shall not exceed the following limitations:
   a. The maximum temperature shall not exceed the natural receiving water temperature by more than 20 degrees Farhenheit.

   b. The maximum temperature shall not exceed 86 degrees Farhenheit.

   c. In any representative set of samples the waste as discharged shall meet the following limit of toxicity: the survival of test fishes (three-spine stickleback) in 96-hour bioassays of the effluent as discharged shall be a median of 90% survival and a 90 percentile value of not less than 70%

survival.

2. The discharge of Wastes 002 and 003 shall not exceed those quantities remaining after the following measures have been taken: Prior to submergence of the dry dock either to receive or refloat a vessel, the discharger shall ensure that all spent abrasives, paint residues and other visible debris are removed from those portions of the dry dock floor which are reasonably accessible, to a degree achievable by scraping and sweeping. After a vessel has been removed from a dry dock, the remaining areas of the floor which were previously inaccessible shall be cleaned as soon as practicable and prior to the introduction of another vessel.

   This provision shall not apply in cases wherein a vessel must be introduced into the dry dock on an emergency basis, such as to prevent sinking or leakage of oil or other materials. The Executive Officer of the Regional Board shall be notified in such cases.

C. Receiving Water Limitations

1. The discharge of waste shall not cause the following conditions to exist in waters of the State at any place:

   a. Floating, suspended, or deposited macroscopic particulate matter or foam;

   b. Bottom deposits or aquatic growths;

   c. Alteration of temperature, turbidity, or apparent color beyond present natural background levels;

   d. Visible, floating, suspended, or deposited oil or other products of petroleum origin;

   e. Toxic or other deleterious substances to be present in concentrations or quantities which will cause deleterious effects on aquatic biota, wildlife, or waterfowl, or which render any of these unfit for human consumption either at levels created in the receiving waters or as a result of biological concentration.

2. The discharge of waste shall not cause the following limits to be exceeded in waters of the State in any place within one foot of the water surface:

   a. Dissolved Oxygen 5.0 mg/L minimum. Median of any three consecutive months shall

		not be less than 80% saturation. When natural factors cause lesser concentration(s) than those specified above, then this discharge shall not cause further reduction in the concentration of dissolved oxygen
b.	pH	Variation from natural ambient pH by more than 0.5 pH units.
c.	Un-ionized ammonia	0.025 mg/L as N Annual Median 0.4 mg/L as N maximum.

3. The discharge shall not cause a violation of any applicable water quality standard for receiving waters adopted by the Board or the State Water Resources Control Board as required by the Clean Water Act and regulations adopted thereunder. If more stringent applicable water quality standards are promulgated or approved pursuant to Section 303 of the Clean Water Act, or amendments thereto, the Board will revise and modify this Order in accordance with such more stringent standards.

D. Provisions

1. The requirements prescribed by this Order supersede the requirements prescribed by Order No. 83-45 adopted on October 16, 1985. Order No. 83-45 is hereby rescinded.

2. The discharger shall comply with all sections of this Order immediately upon adoption except as provided below. The discharger shall study the feasibility of meeting the Basin Plan limits for chromium, copper, lead and zinc for Wastes 004, 005, 006 and 007. The study shall also examine the steps necessary to separately treat wastes 004 and 006 to meet the Basin Plan limits or conditions. The limits and conditions shall be the revised limits and conditions in the Basin Plan which are to be adopted during the second half of 1991.

   The discharger shall develop a best management practices plan (BMP) for the dry dock operations aimed at reducing as much as possible the amount of pollutants discharged. The BMP shall include but not necessarily be limited to the following:

   - Identify the steps necessary to keep the drydock drainage systems free from sandblasting abrasive and paint residue.

- o Identify measures designed to reduce or eliminate the discharge of polluted runoff from the pressure wash operation.

In the interim the discharger shall provide temporary measures to filter paint solids from pressure wash water runoff prior to discharge to the Bay. These tasks shall be completed in accordance with the following time schedule:

Task	Complete Task
Implement interim measures to remove paint solids from pressure wash water discharges.	December 1,1991
Submit progress report.	April 1, 1992
Complete feasibility study and BMP and submit them with an implementation time schedule to the Regional Board.	September 1, 1992

3. The discharger shall review and update annually its contingency plan as required by Board Resolution No. 74-10. The discharge of pollutants in violation of this Order where the discharger has failed to develop and/or implement a contingency plan will be basis for considering such discharge a willful and negligent violation of this Order pursuant to Section 13387 of the California Water Code.

4. The discharger shall comply with the self-monitoring program as adopted by the Board and as may be amended by the Executive Officer.

5. Neither the discharge nor its treatment shall create a nuisance or pollution as defined in Section 13050 of the California Water Code.

6. The discharger shall comply with all items of the attached "Standard Provisions, Reporting Requirements and Definitions" dated December 1986, except items B.2 and C.8.

7. Pursuant to Environmental Protection Agency regulations [40 CFR 122.42(a)] the Discharger must notify the Regional Board as soon as it knows or has reason to believe (1) that they have begun or expect to begin, use or manufacture of a pollutant not reported in the permit application, or (2) a discharge of a toxic pollutant.

8. This Order expires August 21, 1996. The discharger must

file a report of waste discharge in accordance with Title 23, Chapter 3, Subchapter 9 of the California Administrative Code not later than 180 days in advance of such expiration date as application for issuance of new waste discharge requirements.

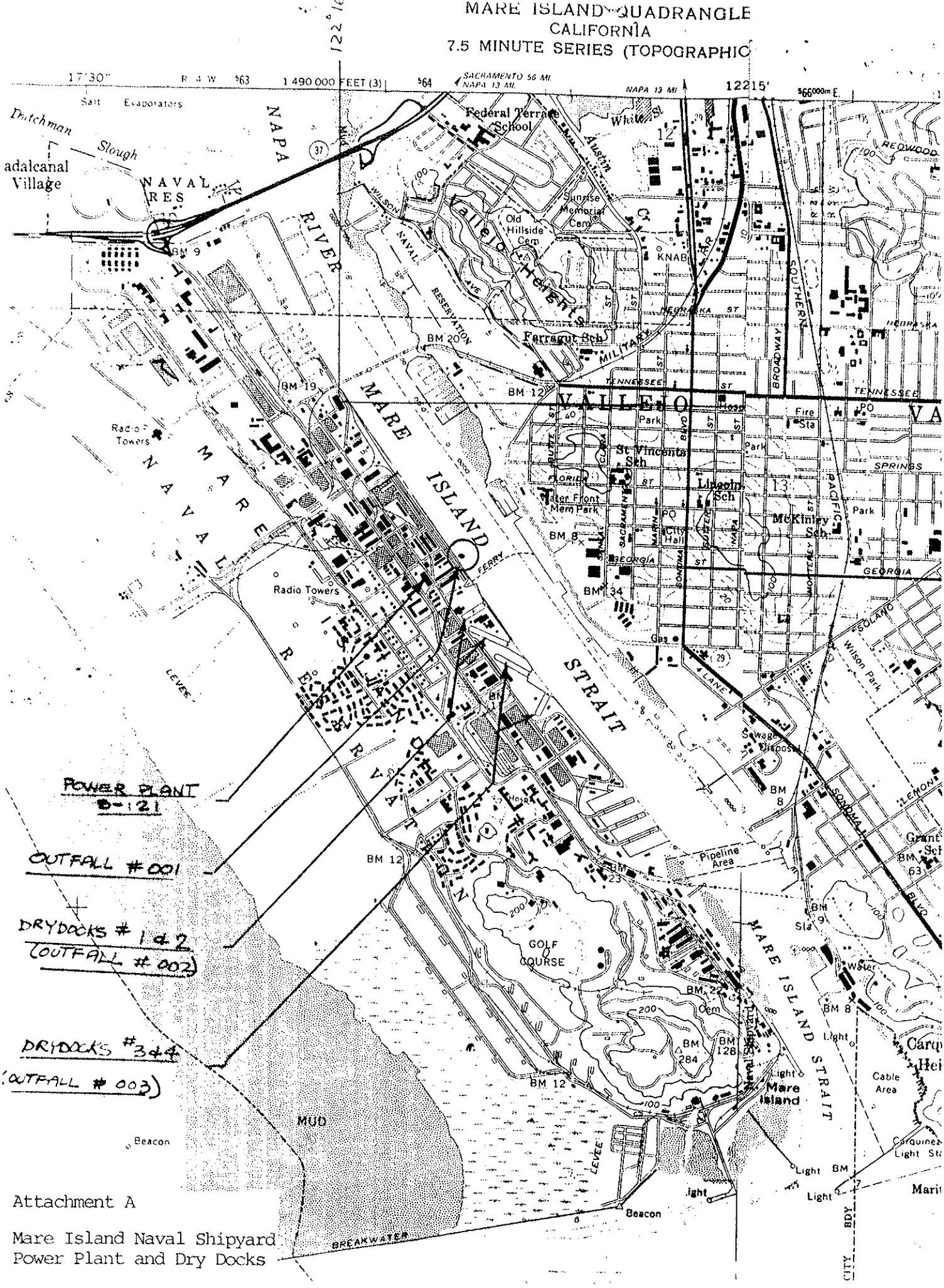
9. This Order shall serve as a National Pollutant Discharge Elimination System Permit pursuant to Section 402 of the Clean Water Act or amendments thereto, and shall become effective 10 days after date of its adoption provided the Regional Administrator, Environmental Protection Agency, has no objection. If the Regional Administrator objects to its issuance, the permit shall not become effective until such objection is withdrawn.

I, Steven R. Ritchie, Executive Officer do hereby certify the foregoing is a full, true and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region on August 21, 1991.

for STEVEN R. RITCHIE
Executive Officer

Attachments:

Standard Provisions & Reporting Requirements, December 1986
Self Monitoring Program
Resolution 74-10



Attachment A

Mare Island Naval Shipyard
Power Plant and Dry Docks

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM

FOR

MARE ISLAND NAVAL SHIPYARD
POWER PLANT AND DRY DOCKS

VALLEJO, SOLANO COUNTY

NPDES NO. CA0005517

ORDER NO. 91-122

SMP CONSISTS OF

PART A, dated December 1986

AND

PART B, Ordered August 21, 1991

PART B

I. DESCRIPTION OF SAMPLING STATIONS

A. COOLING WATER DISCHARGE

Station	Description
E-001	At any point in the outfall containing Waste 001 between the point of discharge and the point at which all waste tributary to that discharge is present.

B. RECEIVING WATER

Station	Description
C-R	At a point in Mare Island Straight 1000 feet upstream from the discharge point for Waste 001.
C-1	At a point in Mare Island Straight directly over the discharge point for Waste 001.

C. PRESSURE WASHING RUNOFF AND SEEPAGE DISCHARGE

Station	Description
E-002	At any point in the outfall containing Wastes 004 and 005 between the point of discharge and the point at which all waste tributary to that outfall is present.
E-003	At any point in the outfall containing Wastes 006 and 007 between the point of discharge and the point at which all waste tributary to that outfall is present.

D. DRY DOCK AREA

	Description
	The entire floor area of the Dry Dock which is submerged during vessel release.

II. SCHEDULE OF SAMPLING AND ANALYSIS

The schedule of sampling and analysis shall be as follows:

Station	Constituent	Units	Type Sampling	Minimum Frequency of Analysis
E-001	Flow	mgd	cont.	-
	Temperature	F	cont.	Daily
	Toxicity (Fish Bioassay)	% survival	grab	Quarterly
C-R	Temperature	F		Monthly
C-1	Standard Observations		-	Monthly
E-002 and E-003	Chromium (VI) *	ug/l	grab	Monthly (1)
	Copper	ug/l	grab	Monthly (1)
	Lead	ug/l	grab	Monthly (1)
	Zinc	ug/l	grab	Monthly (1)
	Organotin	ug/l	grab	Monthly (3)
Dry Docks	-	-	-	(2)

* or total chromium

(1) For both pressure wash discharges and drainage discharges.

(2) Prior to the submergence of any portion of a dry dock, adequacy of the cleanliness of areas will be observed, certified and recorded, indicating the dates and times of dry dock use, observations and submergence.

(3) Monitoring for organotin shall not be necessary until the Regional Board specifies an analytical method to be used. This monitoring requirement may be dropped if future sampling results indicate organotin is not present in the discharge.

III. MODIFICATIONS OF PART A

Delete items D.1, D.2.a., D.2.c, D.2.g., D.3., E.1.e., E.1.f., E.4, E.5.b., F.3., F.5., G.4.c.
Instead of monthly reports as specified in G.4., written reports shall be submitted quarterly.

IV. MISCELLANEOUS REPORTING

A. Violations of any permit limitations shall be reported on

the quarterly transmittal letter accompanying the self-monitoring report in the following format or equivalent:

1. Parameter of Violated Limit	Violation Ratio	Permit Limit	Value (or range of values) of Violation

2. Remedy or proposed remedy to restore compliance.

I, Steven R. Ritchie, Executive Officer, hereby certify that the foregoing Self-Monitoring Program:

1. Has been developed in accordance with the procedure set forth in this Regional Board's Resolution No. 73-16 in order to obtain data and document compliance with waste discharge requirements established in Regional Board Order No. 91-122.

2. Is effective on the date shown below.

3. May be reviewed at any time subsequent to the effective date upon written notice from the Executive Officer or request from the discharger, and revisions will be ordered by the Executive Officer.

for
STEVEN R. RITCHIE
Executive Officer

DATE ORDERED August 21, 1991